Name:

at1113exam: Expand, factor, and solve quadratics (v340)

1. Expand the following expression into standard form.

$$(4x + 5)^2$$

$16x^2 + 20x + 20x + 25$

$16x^2 + 40x + 25$

2. Solve the equation.

$$(8x + 7)(5x - 6) \;=\; 0$$

$x = \dfrac{-7}{8}$ $\qquad$ $x = \dfrac{6}{5}$

3. Expand the following expression into standard form.

$$(7x + 2)(7x - 2)$$

$49x^2 - 14x + 14x - 4$

$49x^2 - 4$

4. Expand the following expression into standard form.

$$(8x - 7)(5x + 3)$$

$40x^2 + 24x - 35x - 21$

$40x^2 - 11x - 21$

5. Solve the equation.

$$7x^2 + 13x - 49 \;=\; 2x^2 - 3x - 4$$

$$5x^2 + 16x - 45 = 0$$
$$(5x - 9)(x + 5) = 0$$
$$x = \frac{9}{5} \qquad x = -5$$

6. Factor the expression.

$$x^2 + x - 12$$

$$(x + 4)(x - 3)$$

7. Factor the expression.

$$9x^2 - 49$$

$$(3x + 7)(3x - 7)$$

8. Solve the equation with factoring by grouping.

$$15x^2 + 20x + 6x + 8 \;=\; 0$$

$$(5x + 2)(3x + 4) = 0$$
$$x = \frac{-2}{5} \qquad x = \frac{-4}{3}$$